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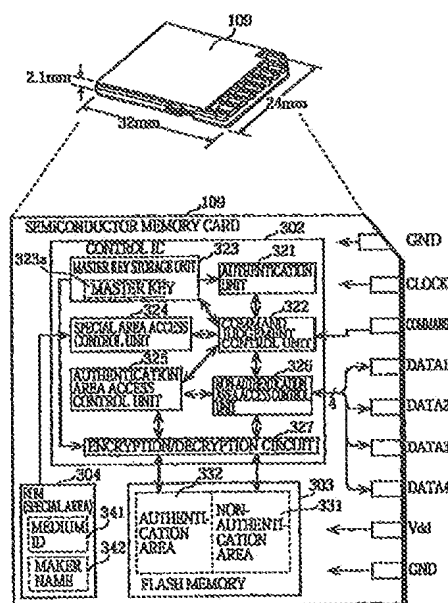
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(54) Semiconductor memory card and data reading apparatus

(57) A semiconductor memory card comprising a control IC 302, a flash memory 303, and a ROM 304. The ROM 304 holds information such as a medium ID 341 unique to the semiconductor memory card. The flash memory 303 includes an authentication memory 332 and a non-authentication memory 331. The authentication memory 332 can be accessed only by external devices which have been affirmatively authenticated. The non-authentication memory 331 can be accessed by external devices whether the external devices have been affirmatively authenticated or not. The control IC 302 includes control units 325 and 326, an authentication unit 321 and the like. The control units 325 and 326 control accesses to the authentication memory 332 and the non-authentication memory 331, respectively. The authentication unit 321 executes a mutual authentication with an external device.

FIG. 5



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but not limited to the liquid crystal display (LCD), light-emitting diode matrix (LED Matrix), Field Emission Display (FED) display and/or Organic-Electroluminescence (OEL) display, and the acoustic component comprises, but not limited to a speaker, a buzzer and/or a crystal acoustic generator.

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The apparatus of the present invention further comprises a power source module 4, and the module 4 comprises the voltage adapter circuit and/ or self-contained power source. It is provided with the power source control switch when it has a self-contained power source. The self-contained power source comprises, but not limited to a PV cell, primary cell and/or rechargeable cell. The power source module 4 may be provided with a conversion circuit to charge the self-contained rechargeable cell.

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As shown in Fig. 14, the apparatus of the present invention further comprises a battery module 44 that is at least a battery cell 45 and contained in a cap 30 fit on the housing 20.

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The battery cell 45 is arranged in the cap 30 from its side inlet ⁶¹ and has the side cover board ⁶² to cover and protect the inlet ⁶¹. One end of the housing 20 is provided with a USB or IEEE1394 interface 23, and one end of the cap 30 is provided with an interface 33 connected with the interface 23. The switch 50 is connected in serial with the circuit from the battery cell 45 to an interface 33 to cut off or turn on the power supply. The battery module 44 may be a part of the power source module 4. The battery cell in the cap 30 supplies the power to the semiconductor storage apparatus after the cap 30 is covered.

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As shown in Fig. 3, the power source module 4 comprises a power conversion apparatus 41, a universal power supply module 42, a power source switch apparatus 43, a battery power source apparatus 44, and a power source state indication apparatus 45. The power source can be supplied not only from the universal interface circuit of the data processing system, but also from the battery power source. When the semiconductor storage apparatus is connected with the data processing system, the universal interface power source of the data processing system supplies power to the semiconductor storage apparatus through the universal interface 2 and the power conversion apparatus 41, and the power source control module 4 of the semiconductor storage apparatus switches automatically to the universal interface power supply mode. The microprocessor in the semiconductor storage apparatus cooperates with the driver to initialize the apparatus, and perform the information prompt simultaneously. When the apparatus is not connected with

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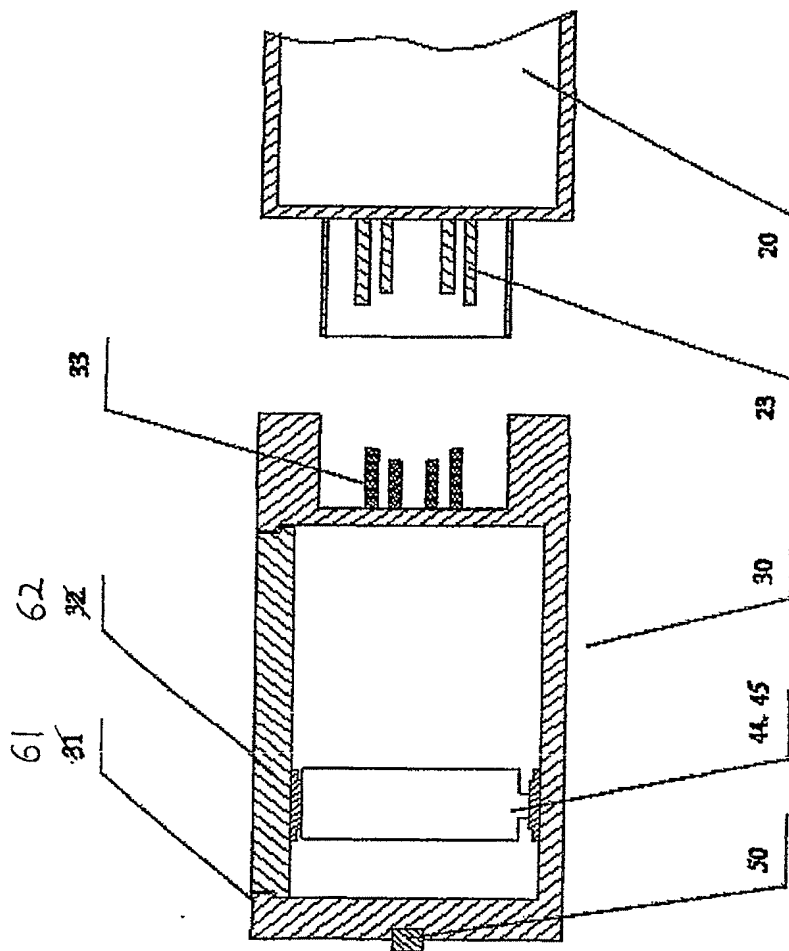


Fig.14

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